CLAIMS

1. A boundary acoustic wave device using a Stoneley wave, comprising: a piezoelectric substance, a dielectric substance laminated on one surface of the piezoelectric substance, and electrodes provided at a boundary between the piezoelectric substance and the dielectric substance,

wherein the thickness of the electrodes is determined so that the acoustic velocity of the Stoneley wave is lower than that of a slow transverse wave propagating through the dielectric substance and that of a slow transverse wave propagating through the piezoelectric substance.

2. A boundary acoustic wave device using a Stoneley wave, comprising: a piezoelectric substance, a dielectric substance laminated on one surface of the piezoelectric substance, and electrodes provided at a boundary between the piezoelectric substance and the dielectric substance,

wherein the duty ratio of strips forming the electrodes is determined so that the acoustic velocity of the Stoneley wave is lower than that of a slow transverse wave propagating through the dielectric substance and that of a slow transverse wave propagating through the piezoelectric substance.

3. A boundary acoustic wave device using a Stoneley wave, comprising: a piezoelectric substance primarily composed of

$LiNbO_3$, a dielectric substance laminated on one surface of the piezoelectric substance, and electrodes provided at a boundary between the piezoelectric substance and the dielectric substance,

wherein Euler angles (ϕ, θ, ψ) of the piezoelectric substance primarily composed of $LiNbO_3$ are in the respective ranges shown in the following Table 1, and a Stoneley wave having an acoustic velocity of 3,757 m/sec or less is used.

[Table 1]

ϕ (°)	θ (°)	ψ (°)
30	90	225
30	270	135
30	270	315
90	90	135
90	90	315
90	270	45
90	270	225
150	90	45
150	90	225
150	270	135
150	270	315
210	90	135
210	90	315
210	270	45
210	270	225
270	90	45
270	90	225
270	270	135
270	270	315
330	90	135
330	90	315
330	270	45
330	270	225

4. The boundary acoustic wave device according to Claim 2 or 3, wherein the thickness of the electrodes is determined so that the

acoustic velocity of the Stoneley wave is lower than that of the slow transverse wave propagating through the dielectric substance and that of the slow transverse wave propagating through the piezoelectric substance.

5. The boundary acoustic wave device according to Claim 3, wherein the duty ratio of strips forming the electrodes is determined so that the acoustic velocity of the Stoneley wave is lower than that of a slow transverse wave propagating through the dielectric substance and that of a slow transverse wave propagating through the piezoelectric substance.

6. A boundary acoustic wave device using a Stoneley wave, comprising: a piezoelectric substance primarily composed of $LiNbO_3$, a dielectric substance laminated on one surface of the piezoelectric substance, and electrodes provided at a boundary between the piezoelectric substance and the dielectric substance,

wherein when the density of the electrodes, the thickness thereof, and the wavelength of the Stoneley wave are represented by ρ (kg/m^3), H (λ), and λ, respectively, $H>1/[1/(3\times10^7\times\rho^{-2.22}+0.017)-0.4]$ holds.

7. The boundary acoustic wave device according to Claim 6, wherein the density ρ of the electrodes is set so that $\rho\geq4,711$ kg/m^3 holds.

8. A boundary acoustic wave device using a Stoneley wave, comprising: a piezoelectric substance primarily composed of $LiNbO_3$, a dielectric substance laminated on one surface of the piezoelectric substance, and electrodes provided at a boundary between the piezoelectric substance and the dielectric substance,

wherein when the density of the electrodes, the thickness thereof, and the wavelength of the Stoneley wave are represented by ρ (kg/m^3), H (λ), and λ, respectively, $H>0.03\ \lambda$ and $\rho>2,699\ kg/m^3$ hold.

9. The boundary acoustic wave device according to one of Claims 1 to 8, wherein the electrodes are each primarily composed of an electrode layer comprising at least one selected from the group consisting of Ag, Au, Cu, Fe, Mo, Ni, Ta, W, Ti, and Pt.